

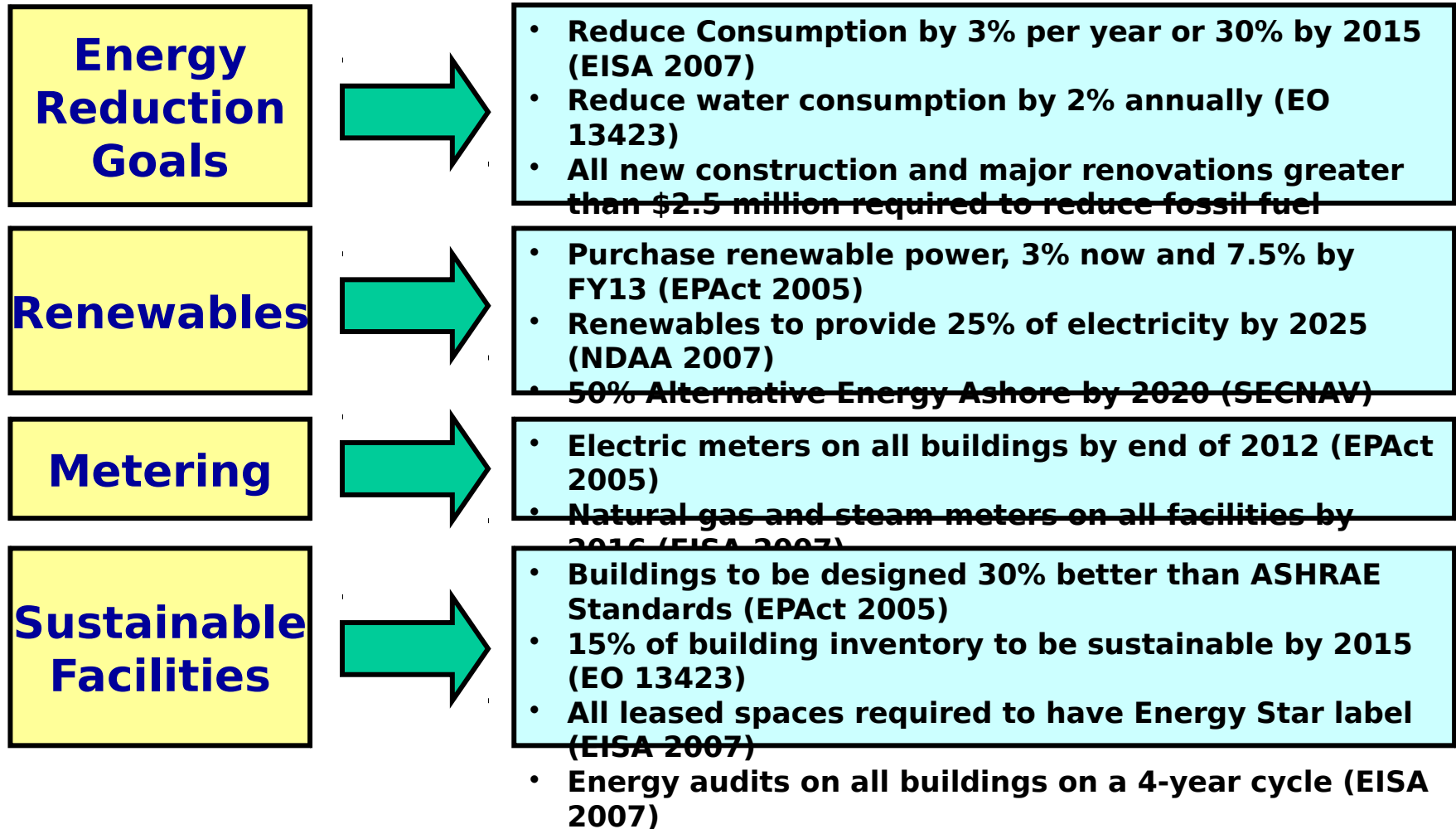


Regional Energy Vision

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Navy's Shore Energy Goals



Navy Investment & Innovation

- **Energy Reduction**
 - Identify and deliver Installation-Level Energy Conservation Measures through:
 - Annual Building Energy Audits
 - Re-/Retro-commissioning assessments
 - Energy Savings Performance Contracts (ESPC)
 - Utility Energy Services Contracts (UESC)
 - Navy Energy SRM Projects - \$250M+ annual program Navy wide (21 Projects programmed in FY12)
- **Renewable Energy**
 - ARRA 2009 - Solar Projects
 - Energy Conservation Investment Program (ECIP)
- **Metering and Benchmarking**
 - Advanced Metering Infrastructure (AMI)
- **Sustainable Facilities**
 - All New Navy buildings to meet EAct 2005 and EO 13423 Mandates
 - Construction to meet LEED Silver Criteria



Wind Turbine , JEBLC



GSHP Well Field at NS Norfolk



Green Roof at NAVSTA Norfolk

Take Aways



- **Mainstream Energy Execution**
- **Introduction of new Technology**
- **Demonstration of economic return / feasibility**
- **Integration of planning efforts**
- **Mix of funding approaches for projects (funded, financed)**

Questions?



Backup

eROI Methodology



**Provide Secure
Energy to Navy
Shore Community**

**Maximize
Financial Benefits
39%**

- *Construction Cost*
- *SIOH Cost (%)*
- *Design Cost (%)*
- *Salvage Value*
- *% Construction Cost per year*
- *Time to Accrue 50% Project Benefit*
- *Cost Impact per Fuel Type*
- *Demand Impact per Fuel Type*
- *Non-Energy Savings / Costs*

**Minimize Shore
Energy
Consumption
9%**

- *Fuel Use by Fuel Type*
 - *Distillate Oil*
 - *Residual Oil*
 - *Natural Gas*
 - *Coal*
 - *LPG*
 - *Other*

**Provide Reliable
Energy to Critical
Infrastructure
26%**

- *# of Critical Facilities Impacted*
- *MDI Scores*
- *# of Outages per Year*
- *Duration of Outage*
- *Susceptibility*
- *Current Backup Power Availability*
- *% of Functions Enabled to Continue During Outage*
- *\$ Damage per Outage*

**Regulatory Compl.
and Stakeholder
Expectations
13%**

- *# of Regulatory Mandates Addressed*
- *Impact on Public Perception*
- *Timing of Impact*
- *Impact on Quality of Service*
- *Timing of Impact*
- *# of People Affected by Impact*

**Develop Enabling
Infrastructure
13%**

- *Impact on Energy Supply and Demand Information*
- *Impact on Flexibility of Infrastructure*
- *Impact on Ability to Demonstrate Energy Tech Adoption*
- *# of Installations Tech is Applicable*

Funding Opportunities



ECIP (Energy Conservation Investment Program)

- Subset of the Military Construction (MILCON) funding program
- Starting in FY06, dedicated to renewable energy projects (solar thermal, PV, GSHP, wind, biomass, daylighting, etc.)
- Recently allowed water reuse/reclamation/recycling projects
- Requirements
 - Submissions typically due to NFESC by the end of June each year
 - Use Life-Cycle Cost Analysis form
 - > \$300K
 - Savings-to-Investment Ratio (SIR) > 1.0 for individual projects
 - Must include SIOH and PCAS

eSRM (Energy Special Projects)

- Submission Requirements
 - Signed installation-level DD1391
 - Completed eROI template